

AD-A179 497

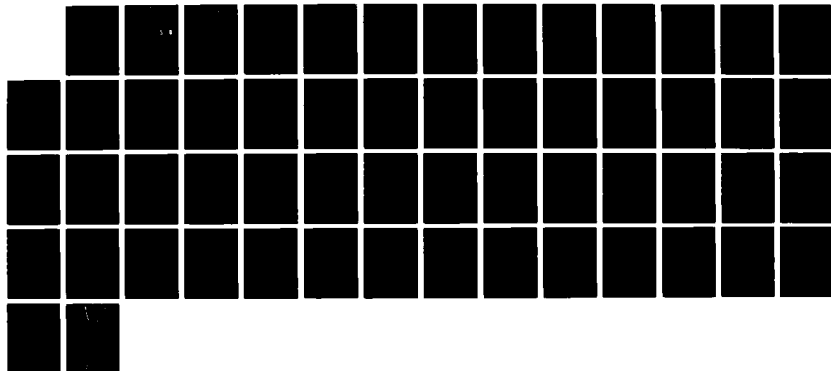
WHERE TO GO FROM HERE? CONSIDERATIONS FOR THE FORMAL  
ADOPTION OF AUFTRAGSTAKTIK BY THE US ARMY(U) ARMY  
COMMAND AND GENERAL STAFF COLL FORT LEAVENWORTH KS  
SCHOOL .. J T NELSEN 05 DEC 86

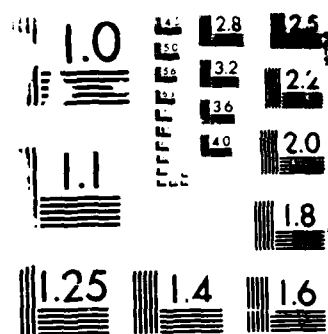
1/1

UNCLASSIFIED

F/G 15/7

ML





AD-A179 497

Where to Go From Here? :  
Considerations for the Formal Adoption of Auftragstaktik  
by the US Army

by

Major John I. Nelsen II  
Infantry

DTIC  
ELECTE  
APR 17 1987  
S D

School of Advanced Military Studies  
U.S. Army Command and General Staff College  
Fort Leavenworth, Kansas

5 December 1986

Approved for public release; distribution is unlimited.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

## REPORT DOCUMENTATION PAGE

Form Approved  
OMB No 0704-0188  
Exp Date Jun 30, 1986

1a REPORT SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>			1b RESTRICTIVE MARKINGS <b>ATZL-SWV</b>	
2a SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited	
2b DECLASSIFICATION/DOWNGRADING SCHEDULE				
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION School of Advanced Military Studies, USAC&GSC		6b. OFFICE SYMBOL (If applicable) ATZL-SWV		7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code) Fort Leavenworth, Kansas 66027-6900			7b. ADDRESS (City, State, and ZIP Code)	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS	
			PROGRAM ELEMENT NO.	TASK NO.
			PROJECT NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) Where to Go from Here?: Considerations for the Adoption of <u>Auftragstaktik</u> by the US Army (U)				
12. PERSONAL AUTHOR(S) MAJ John T. Nelson II, USA				
13a. TYPE OF REPORT Monograph		13b. TIME COVERED FROM _____ TO _____		15. PAGE COUNT 48
14. DATE OF REPORT (Year, Month, Day) 86/12/5				
16. SUPPLEMENTARY NOTATION				
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP		
			<u>Auftragstaktik</u> mission-oriented orders	
			command and control mission-oriented tactics	
			leadership tactics German Army	
19. ABSTRACT (Continue on reverse if necessary and identify by block number)				
<p>In recent years a plethora of comments have appeared praising the impressive combat effectiveness of the pre-1945 German Army. Many of these comments have attributed a large measure of the Germans' tactical success to the concept now referred to as <u>Auftragstaktik</u> (roughly and imperfectly translated as "task-oriented or mission-oriented tactics"). The implication often made, implicitly or explicitly, is that the US Army should emulate the German Army by formally adopting a concept akin to that of <u>Auftragstaktik</u>. Whether the US Army should do so is the main issue of this monograph.</p> <p>The effort to address this issue begins with an examination of the nature of <u>Auftragstaktik</u>, as it was practiced by the German Army before 1945. Next, this study seeks to ascertain how applicable <u>Auftragstaktik</u> is to the conditions of the modern battlefield. (continued on other side of form)</p>				
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>	
22a. NAME OF RESPONSIBLE INDIVIDUAL MAJ John T. Nelson II			22b. TELEPHONE (Include Area Code) (913) 684-2138	22c. OFFICE SYMBOL ATZL-SWV

DD FORM 1473, 84 MAR

83 APR edition may be used until exhausted  
All other editions are obsolete

SECURITY CLASSIFICATION OF THIS PAGE

UNCLASSIFIED

(Continued from block #19) Then, the paper explores the degree of compatibility between Auftragstaktik and contemporary Army trends and command traditions.

This monograph finds that Auftragstaktik is a term largely misunderstood and much too narrowly circumscribed. It is clearly an all-encompassing philosophy of war, holistically embracing elements of what today would be called the theory of the nature of war, character and leadership attributes, tactics, command and control, senior-subordinate relationships, and training and education. An Auftragstaktik-like approach appears profoundly attuned to the needs of modern warfare, and seems sufficiently compatible with Army trends and traditions to take root.

This study concludes with the recommendation that the Army formally and doctrinally adopt an Auftragstaktik-like approach in the near future. This would promote a common understanding of what was meant by the term and facilitate a uniform concept of leader training and education. It would also provide the kind of central focus an Auftragstaktik-like approach needs for implementation in a truly holistic and comprehensive way.

Where to Go from Here? :  
Considerations for the Formal Adoption of Auftragstaktik  
by the US Army

by

Major John T. Nelsen II  
Infantry

School of Advanced Military Studies  
U.S. Army Command and General Staff College  
Fort Leavenworth, Kansas

5 December 1986

Approved for public release; distribution is unlimited.

School of Advanced Military Studies  
Monograph Approval

Name of Student: Major John T. Nelsen II  
Title of Monograph: Where to Go from Here? : Considerations for the Formal Adoption of Auftragstaktik by the US Army

Approved by:

Douglas W. Craft  
Lieutenant Colonel Douglas W. Craft, M.B.A.

Monograph Director

Richard Hart Sinnreich  
Colonel Richard Hart Sinnreich, M.A.

Director, School of  
Advanced Military  
Studies

Philip J. Brookes  
Philip J. Brookes, Ph.D.

Director, Graduate  
Degree Programs

Accepted this 20th day of December 1986.



By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

## ABSTRACT

WHERE TO GO FROM HERE? : CONSIDERATIONS FOR THE FORMAL ADOPTION OF AUFTRAGSTAKTIK BY THE US ARMY by MAJ John I. Nelsen II, USA, 48 pages.

In recent years a plethora of comments have appeared praising the impressive combat effectiveness of the pre-1945 German Army. Many of these comments have attributed a large measure of the Germans' tactical success to the concept now referred to as Auftragstaktik (roughly and imperfectly translated as "task-oriented or mission-oriented tactics"). The implication often made, implicitly or explicitly, is that the US Army should emulate the German Army by formally adopting a concept akin to that of Auftragstaktik. Whether the US Army should do so is the main issue of this monograph.

The effort to address this issue begins with an examination of the nature of Auftragstaktik, as it was practiced by the German Army before 1945. Next, this study seeks to ascertain how applicable Auftragstaktik is to the conditions of the modern battlefield. Then, the paper explores the degree of compatibility between Auftragstaktik and contemporary Army trends and command traditions.

This monograph finds that Auftragstaktik is a term largely misunderstood and much too narrowly circumscribed. It is clearly an all-encompassing philosophy of war, holistically embracing elements of what today would be called the theory of the nature of war, character and leadership attributes, tactics, command and control, senior-subordinate relationships, and training and education. An Auftragstaktik-like approach appears profoundly attuned to the needs of modern warfare, and seems sufficiently compatible with Army trends and traditions to take root.

This study concludes with the recommendation that the Army formally and doctrinally adopt an Auftragstaktik-like approach in the near future. This would promote a common understanding of what was meant by the term and facilitate a uniform concept of leader training and education. It would also provide the kind of central focus an Auftragstaktik-like approach needs for implementation in a truly holistic and comprehensive way.



## TABLE OF CONTENTS

I.	Introduction.....	1
II.	The Nature of <u>Auftragstaktik</u> .....	2
III.	The Demands of the Modern Battlefield.....	15
IV.	What Is to Be Done?.....	21
V.	Conclusion.....	32
	Endnotes.....	34
	Bibliography.....	41

## I. Introduction

The well-known British military theorist J.F.C. Fuller once remarked, "Looking back is the surest way of looking forward."<sup>1</sup> Belief in this sentiment permeates a host of writings published in recent years extolling the combat prowess of the German Wehrmacht and suggesting, either implicitly or explicitly, that its concept of Auftragstaktik (roughly and imperfectly translated as "mission-oriented tactics") be adopted by the US Army.<sup>2</sup> The problem, however, is that most of these writings present a largely superficial picture of what Auftragstaktik really was. The view "looking back" must be much clearer if the "looking forward" based on it is to have any real validity.

The main issue of this paper is whether the US Army should formally adopt a concept akin to that of Auftragstaktik. This issue is of growing importance since sentiment favoring adoption is on the rise, both inside and outside the Army. The approach will be, first, to explore the nature of Auftragstaktik, as it was practiced in the German Army before 1945. Following that, the paper will address the applicability of Auftragstaktik to future battlefield conditions, as they are envisioned by military theorists and the US Army's AirLand Battle doctrine. Then, the compatibility of the Auftragstaktik approach with contemporary Army command traditions and trends will be explored. Based on the findings, this monograph will conclude with a recommendation about the desirability of adopting Auftragstaktik formally as doctrine. All discussion relates to the tactical level of war.

## II. The Nature of Auftragstaktik

There are significant problems attempting to identify the nature of Auftragstaktik. Foremost among them is that the German Army (1871-1945) virtually never used the term. It was only after World War II that it came into general use. At that time, former German generals coined the term to label certain aspects of the German Army's approach to war which they were trying to illustrate. Adding to the confusion, West Germany's Bundeswehr adopted the term but applied it narrowly to their own system of command and control, translating it as "mission-oriented orders."<sup>3</sup> In short, the term Auftragstaktik is an artificial, after-the-fact construct whose meaning has never been defined with any precision.

How, then, should one use the term? It has great utility as a rubric to identify, group, and analyze salient aspects of the German Army's approach to war prior to 1945. It applies particularly to those aspects which led to the exercise of such impressive initiative in battle by its leaders at all levels. To study these aspects, however, one must carefully examine the German Army's regulations and military literature of the period, as well as the writings of former German officers. Unfortunately, much of this material remains untranslated. One must be wary of focusing on any single aspect in isolation; what is now termed Auftragstaktik formed part of a seamless fabric in the German Army's warfighting philosophy. Virtually all notions were interrelated in some fashion or other. They were not

grafted piecemeal onto this philosophy, but evolved organically over a period of at least eighty years. Thus, the concept of Auftragstaktik is a useful analytical tool--the more so as one bears in mind its limitations and looks back historically more than "skin deep."

However one wishes to characterize Auftragstaktik, one thing is clear. The technique of "mission-oriented orders" forms only the "tip of the iceberg" in understanding the full scope of Auftragstaktik. Rather, it is an all-encompassing concept, holistically embracing elements of what today would be called the theory of the nature of war, character and leadership attributes, tactics, command and control, senior-subordinate relationships, and training and education.

Auftragstaktik, as demonstrated in World War II, was the product of an evolutionary process dating from the 19th century. The driving force for it was the necessity of developing greater initiative in leaders at all levels. At the tactical level, the Prussian Army discovered both during the Austro-Prussian War (1866) and the Franco-Prussian War (1870-71) that the increased lethality of weapons forced greater dispersion across the battlefield. Commanders of armies, corps, divisions, brigades, regiments, and often battalions could neither fully observe nor control their forces in the detail previously allowed. Frequently, captains and lieutenants were forced to employ their units in fast-moving situations without receipt of detailed instructions from superiors. In short, they had to make

decisions on their own which in the past had been reserved for higher-level commanders. The results were frequently disastrous. Prussian junior leaders were untrained for this and often proved inadequate to the task.

Of necessity, the new German Imperial Army studied the problem, seeking a way to prepare leaders at lower levels better for independent decision-making. Without allowance for this, decisions on the dispersed battlefield threatened to be too time-consuming. Speed of decisive action would be lost. The result of the study was a new provision in the Drill Regulations of the Infantry (1888). It stipulated that commanders should give subordinates general directions of what was to be done, allowing them freedom to determine how to do it. This approach, it was felt, would stimulate development of the "thinking leader" who was used to making tactical judgments in his own right. Such leaders would less likely "freeze up" when faced with new situations in the absence of detailed instructions from above. By 1914, the spirit of this provision had taken root.<sup>4</sup>

World War I saw pendulum-like swings in the application of this provision. In the initial campaigns, it was fully applied with good results. However, the high attrition rates and the great influx of reserve officers who had not received adequate training caused the application to wane. In the West, the more centralized nature of trench warfare also had an influence. Commanders issued increasingly detailed orders that gave subordinates few opportunities to exercise much initiative.

Then, the German development of elastic defense-in-depth tactics (1916-1918) and assault tactics (1918) changed the situation. Both demanded great initiative and creativity from leaders down to the noncommissioned officer level, often in fluid situations and in the absence of orders. The Germans trained hard for such leadership behind the lines and enjoyed impressive success at the tactical level. As a consequence, the German Army of the post-World War I era evinced a strong institutional commitment to developing leaders who were willing and able to take prudent, independent action--as needed--to handle the unexpected.<sup>5</sup>

This desire for increased leader initiative was in full consonance with the German Army's perception of the nature of war. First, speed was considered imperative for victory at both the strategic and tactical levels of war. German Field Service Regulations emphasized that "the first demand in war is decisive action."<sup>6</sup> As a country with central position in Europe, Prussia-Germany always faced the specter of a two-front war. Rapid defeat of an enemy through offensive action was therefore essential. This discouraged opportunistic countries from joining the conflict to "gang up" on Germany. It also reflected the view that in a two-front war, victory was possible only by defeating one foe quickly before the second one was ready to fight. This allowed the fullest concentration of German forces at chosen decisive points, in a way which favored a series of decisive victories. In this manner, an enemy coalition would in effect, suffer piecemeal defeat.<sup>7</sup> At the tactical level, the idea was to

react on enemy contact with a series of rapid maneuvers to force the adversary into a largely reactive posture. The aim was thereby to unhinge the enemy psychologically by imposing a series of threatening situations in a way that caused him to fall further and further behind in his ability to respond. Ideally, enemy efforts would become increasingly disjointed and uncoordinated. He would then be vulnerable to defeat in detail through a series of subsequent engagements forced on him at great disadvantage.

Secondly, the Germans believed that the appropriate maneuvers to take in the face of the enemy could not be pre-planned in meticulous detail. They subscribed to the elder Moltke's dictum that "no operation plan extends with any certainty beyond the first encounter with the main body of the enemy."<sup>8</sup> Since war was viewed fundamentally as a "clash of wills," enemy action would seldom conform to expectations.<sup>9</sup> Added to this was a keen appreciation for the disruptive effects of friction on military activities.<sup>10</sup>

Thirdly, the Germans considered every situation in war unique. This required competent leaders to make rapid estimates and decisions, and then to act on them swiftly. Furthermore, such decisions would always be made with incomplete, inaccurate, or conflicting information. Uncertainty and the fog of war stalked the battlefield.<sup>11</sup> Thus, the leader had to be a "thinking soldier." He needed both intuitive powers to interpolate the situation correctly and creative powers to devise

a successful course of action. Each situation required a unique application of tactical principles which could not be prescribed by universal recipes or by detailed planning. This view of war was subsumed by the first article in the Field Service Regulations of 1933: "Leadership in war is an art, a free creative activity based on a foundation of knowledge. The greatest demands are made on the personality."<sup>12</sup>

Thus, the German view of war fully supported granting junior leaders greater initiative--if that's what it took to generate the speed necessary for victory. At the same time, this situational and artistic perspective on war shaped the framework for the exercise of leader initiative.

A key component of that framework consisted of the leadership and character attributes desired in a leader. Initiative in a leader flowed from his willingness to step forward, take charge of a situation, and act promptly--completely on his own authority, if necessary. Not surprisingly, the German Field Service Regulations stressed that the noblest quality of a leader was his willingness to assume responsibility.<sup>13</sup> To do so under stressful conditions required considerable moral courage, self-reliance, and self-confidence--attributes which the German Army prized highly.

Closely related were the attributes which stressed risk-taking and decisive action. Since all decisions were made under conditions of uncertainty and since every situation was unique, there could never be a perfect solution. Therefore, one should



not strive for one. At the same time, there were theoretically several workable solutions for every tactical problem. "Many roads lead to Rome" was a common refrain heard in this regard.<sup>14</sup> The object was to act swiftly. Leaders were cautioned against waiting to gather more information so as to make a perfect decision, or even the best decision possible. Good leaders made a rapid estimate, adopted as sound a course of action as possible, and executed it decisively. In this view, speed was more essential than precision. A "good" plan carried out immediately was thought superior to a "superb" plan carried out much later.<sup>15</sup>

To operate in this way, a leader had to assume great risk willingly. To encourage this, the German Army framed two rules: First, in situations clearly requiring independent decisions, a leader had not only the latitude to make them, but the solemn duty to do so. A good leader cultivated a "will to action." Second, inaction and omission in such situations was considered much worse than judgmental error based on a sincere effort to act decisively. The former was the shameful antithesis of leadership. The latter was an honorable effort to practice the art of warfighting, in which no single action was guaranteed success. While errors in judgment might cause unsuccessful engagements, the broad exercise of initiative, it was felt, would carry the battle. Thus, no opprobrium was associated with failure resulting from prudent risk-taking by the "thinking leader." Such setbacks were simply the "breaks of war."<sup>16</sup>

The second part of the framework for exercising initiative consisted in the methodology of issuing and carrying out orders. In present-day terminology, this falls chiefly under the heading of "command and control." As mentioned earlier, the Germans adopted a system of orders in 1888 giving subordinates as much latitude as possible in implementing assigned tasks. They refined the methodology over time. Insofar as he could, the commander told subordinates what tasks to accomplish, but not how to accomplish them. He also gave them sufficient resources to accomplish those tasks, stated any restraints, and provided required coordinating information. The goal was to allow subordinates as much freedom of action as the situation permitted. Orders were brief and usually verbal.<sup>17</sup>

The underlying purpose of this system was twofold: to generate maximum speed in transmitting orders and accomplishing tasks, and to develop leaders at all levels who habitually thought for themselves in self-reliant fashion. Such leaders were continually practicing initiative in devising and carrying out actions. Leaders like these, it was thought, would better handle the unexpected in battle, where split-second decisions were often decisive. Such leaders would also feel more "ownership" for their actions, thereby stimulating greater determination in carrying them out. Also, self-reliant leaders would derive more personal pride and satisfaction from their duties, causing them to identify more closely with their units. This, in turn, would strengthen unit cohesion.

In issuing orders, the most important part was the statement of commander's intent. This related the various assigned tasks and provided a vision of the desired end result of an operation. In carrying out their tasks, subordinates were always to focus on the intent. It was virtually sacrosanct. Subordinates using initiative in response to the unexpected had to conform, insofar as possible, with this intent. Thus, commander's intent promoted unity of effort in fluid situations which failed to conform nicely to plans and expectations. The intent, therefore, both circumscribed and focused the exercise of initiative in subordinates.<sup>18</sup>

Under extenuating circumstances, a subordinate could even modify or abandon tasks if he could still satisfy the commander's intent. This, however, was a serious matter. Prior approval was required if possible. If that proved impossible, the subordinate assumed full responsibility for the decision. He would have to justify his action later to the satisfaction of his superior.<sup>19</sup>

This system of operating did not lessen the need for commanders to control their subordinates. Commanders habitually positioned themselves well forward. They kept themselves well-informed of the situation as well as the actions of their subordinates, whom they visited frequently. In no way did commanders relinquish any command authority or responsibility. They would interfere with subordinates doing something clearly unsound. They would add or delete assigned tasks, or change their intent, as they saw fit. In short, they supervised and

controlled, but in a manner encouraging initiative and "thinking" in subordinates.<sup>20</sup>

Subordinates, on the other hand, made every effort to maintain contact with their commander and to keep him fully informed of the situation. They were expected to act according to the commander's intent, but were to demonstrate initiative by self-reliantly solving problems which could be surmounted at their level, and by recommending changes to orders based on a continual evaluation of the situation.<sup>21</sup>

A third element of the framework for exercising initiative was that of senior-subordinate relationships. This falls under today's rubrics of leadership, command and control, and tactics. Commanders were responsible for developing in their subordinates the desired character and leadership attributes discussed earlier. Equally important, they spent a great deal of time teaching subordinates how to "think on their feet" in making estimates of the situation and in applying tactical principles. The object was not only to "train" subordinates but to "educate" them. Leaders were taught not so much "what" to think about, but, more importantly, "how" to think. Superiors and subordinates spent a lot of time together in map exercises, terrain walks, sand-table exercises, and field exercises discussing tactical problems. A central focus of every field exercise was the development of subordinate leaders. This involved a close teacher-student, coaching-like relationship. Much of this time was "one-on-one."<sup>22</sup>

The result was that the leader and his subordinate got to know very well how each other thought. This was important to the subordinate in helping him to read between the lines of his commander's intent. This was also important to the commander; it allowed him to anticipate intuitively how his subordinate would exercise freedom of action in various situations. From this close relationship flowed mutual trust, which, in turn, nourished initiative even more. The subordinate would feel confident that his exercise of initiative in battle generally conformed to his commander's intent. In turn, the commander would trust his subordinate with more "rein" or freedom of action in accomplishing tasks.<sup>23</sup>

The training and education process, both in units and military schools, facilitated the exercise of initiative in another way. It promoted among leaders a common outlook on the nature of war, on desirable character and personality traits, on the importance of initiative, on proper senior-subordinate relationships, and on how to issue orders. It also taught a common approach in understanding and applying tactical principles to the different types of operations, emphasizing the peculiar features and characteristics of each. Military terminology was precise, standard, and widely understood. The result was a remarkably uniform perspective in tactical operations which facilitated concise orders, accurate but brief communication of intent, and a sensing of how the unit as a whole might respond in given situations. At the same time, the pitfall of teaching

stereotyped, universal solutions to standard situations was avoided. This common outlook and language reassured both leaders and subordinates, reinforcing that sense of mutual trust and dependability so conducive to initiative and freedom of action.<sup>24</sup>

The standard approach for conducting critiques of tactical exercises promoted initiative as well. Since every situation was unique and since no training situation could encompass even a fraction of the peculiarities of a real tactical situation, there could be no "ideal or approved solutions." One acceptable solution was as good as another. Critiques of leader actions focused on identifying the student's rationale for doing what he did. What factors did he consider, or not consider, in making his estimate of the situation? Were the actions taken consistent with this estimate? How well were orders communicated? Were the actions taken tactically sound? Did they have a reasonable chance of being successful? These questions served as the basis for critiques. The idea was to broaden the leader's analytical powers, experience level, and base of knowledge, thereby enhancing his creative ability to devise sound, innovative solutions to difficult problems. Critiques were lenient and understanding, rather than biting and harsh. Mistakes were considered essential to the learning process and thus cast in a "positive light." The focus was not on whether the leader did well or poorly, but on what progress he was making overall to develop as a leader. This was considered the best climate to grow as a leader. Damaging the leader's self-esteem, especially

publicly, was strictly avoided. A leader's self-confidence, it was felt, was the wellspring from which flowed his willingness to assume responsibility and exercise initiative.<sup>25</sup>

In summary, it becomes clear that Auftragstaktik--defining the more salient features of the old German Army's approach to fostering such extensive initiative from "thinking" leaders--is a complex issue. The use of task-oriented orders (often termed mistakenly as "mission-oriented orders") was only one facet of an all-encompassing concept. This concept was holistic, embracing aspects of what today would be called a theory of the nature of war, character and leadership traits, tactics, command and control, senior-subordinate relationships, and training and education. In addition, these aspects were organically consistent, mutually reinforcing, and inseparably interwoven. Auftragstaktik, then, was much more than a mere technique of issuing orders. It was nothing less than a comprehensive approach to warfighting. Its first imperative was speed, to be achieved by the intelligent and aggressive exercise of initiative at all levels.

### III. The Demands of the Modern Battlefield

To what extent are the main features of Auftragstaktik applicable to the demands of the modern battlefield--today and tomorrow? This is the central question for investigation at this point. A composite picture will form from a variety of sources. It suggests a striking parallel between the Auftragstaktik approach to war and that required by the US Army to meet the challenges of modern combat. Among the sources is the Army's AirLand Battle Doctrine, as expressed in Field Manual (FM) 100-5, Operations (1986). It reflects the Army's vision of the modern battlefield and prescribes in general fashion the approach to be taken. Another source consists of the experiences from the National Training Center (NTC). Here, Army units regularly fight a mock Soviet regimental-size force in a fully modern battlefield environment. A third source is a collection of views from theorists and other writers--both inside and outside the Army--who have addressed the topic.

Speed of decisive action--the fundamental rationale for Auftragstaktik-- is considered essential for success on the modern battlefield. Fluid situations, fleeting opportunities, and chaotic conditions will require rapid decision-making under conditions of great uncertainty. Furthermore, speed will often demand a conscious sacrifice of precision.<sup>26</sup> Speed will also be critical for a smaller force to defeat a larger force. In the words of FM 100-5:



Agility--the ability of friendly forces to act faster than the enemy--is the first prerequisite for seizing and holding the initiative. Such greater quickness permits the rapid concentration of friendly strength against enemy vulnerabilities. This must be done repeatedly so that by the time the enemy reacts to one action, another has already taken its place, disrupting his plans and leading to late, uncoordinated, and piecemeal enemy responses. It is this process of successive concentration against locally weaker or unprepared enemy forces which enables smaller forces to disorient, fragment, and eventually defeat much larger opposing formations.<sup>27</sup>

This consideration assumes great importance since the Army plans to fight outnumbered. There is a broad consensus that speed can only result from decentralized decision-making à la Auftragsstaktik. The exercise of initiative by subordinates at all levels is considered essential.<sup>28</sup> First, the general tempo of war has increased significantly since World War II. In many cases, junior and mid-level leaders will have no time to request instructions from superiors before having to act. There is simply less time for decision-making and communicating than ever before. Second, battlefield conditions will cause units at all levels to lose radio contact frequently with their headquarters or to be isolated physically from parent units. This will result from intense electronic warfare and from the non-linear shape of the battlefield. To await reestablishment of contact with superiors before acting would court disaster by yielding the initiative to the enemy. Third, unit dispersal on the battlefield will be much greater than in past wars.<sup>29</sup> Experiences at the NTC indicate that battalion commanders who

attempt detailed control over even a portion of their force are usually overwhelmed by the tempo of the enemy's attack.

Distances between subordinate units preclude this kind of control. As Major General Leland, former NTC commander wrote: "A unit that does well only those things the boss checks will have great difficulty." Initiative at all levels is a must.<sup>30</sup>

The connection between speed and the exercise of initiative at all levels appears even more critical now than it was for Auftragstaktik before 1945.

There is widespread agreement on the framework for decentralized decision-making. It is the system of mission-oriented orders. As in the old German task-oriented system, commanders tell subordinates what to do, but allow them as much leeway as possible to determine how to do it. The commander also communicates his intent--as well as that of his next senior commander--along with any pertinent restraints or coordinating information. The intent is the subordinate's guidepost as he strives to deal with unexpected threats or opportunities, friction, and the fog of war.<sup>31</sup> As FM 100-5 emphasizes, the leader must avoid dependence on constant direction. Rather, he should

conduct his operation confidently, anticipate events, and act fully and boldly to accomplish his mission without further orders. If an unanticipated situation arises, committed unit commanders should understand the purpose of the operation well enough to act decisively, confident that they

are doing what their superior commander would order were he present.<sup>32</sup>

This view is echoed by a large chorus of military and civilian writers. They also largely echo the sentiment that broad-based initiative generates speed. Units which operate on the basis of strict centralized control are notoriously slow and ponderous. In the words of military theorist Richard Simpkin: "if . . . [a commander's] subordinates and their staffs are trained only to act on detailed orders and to obey complex SOPs to the letter regardless of circumstances, he cannot hope to get them to do something at the drop of a hat."<sup>33</sup>

Not surprisingly, the leadership and character attributes commonly associated with stimulating battlefield initiative bear a strong resemblance to those associated with Auftragstaktik. Most important, the leader must be an aggressive "thinker"--always anticipating and analyzing. He must be able to make good assessments and solid tactical judgments. These must be based on a thorough grounding in doctrine, and on the creative ability to apply it to specific situations. He must take pride in his ability to solve problems at his own level, improvising as necessary to accomplish assigned missions without detailed, "blow-by-blow" instructions or continual supervision. He must be tough-minded, acting decisively and independently when contact with superiors is impractical or impossible. This behavior requires moral courage, self-reliance, and self-confidence. It also involves a willingness to assume responsibility and take risk in order to do "the right thing at the right time." Lastly,

the leader must be both trustworthy and trusting. As a subordinate, he must faithfully adhere to his commander's intent in exercising whatever freedom of action he is given. As a superior, he must trust his subordinates by allowing them as much freedom of action as possible and by encouraging them to exercise initiative at their level.<sup>34</sup>

This composite view of war thus echoes an old German Army belief. It is the ability of small units--acting coherently and synergistically with respect to a central plan in chaotic and potentially panicky moments--to shape decisively the whole course of battles. To many observers the following comment by S.L.A. Marshall seems even more pertinent today than in the late 1940s when he made it:

. . . The great lesson of minor tactics in our time . . . is the overpowering effect of small amounts of fire when delivered from the right ground at the right hour . . . . The salient characteristic of most of our great victories (and a few of our defeats) was that they pivoted on the fire action of a few men.

The increased firepower, lethality, and ranges of modern weapons dramatically increase the effect that small units can have at pivotal times and places.<sup>35</sup> What emerges from this overall mosaic of future war is the strong suggestion for the need of an approach roughly approximating Auftragstaktik. Key Army leaders recognized this in 1981 and had the rudiments of such an approach incorporated subtly into the AirLand Battle

Doctrine.<sup>36</sup> This incorporation, in turn, linked the application of AirLand Battle Doctrine ineluctably with speed of decisive action, as generated by initiative-taking at all levels. This leads to two pertinent questions: To what degree are traditions, trends, and practices in the Army compatible with an Auftragstaktik-like approach? Should the Army more systematically adopt and implement such an approach?

#### IV. What Is To Be Done?

The Army, it can be argued, has two opposing traditions of exercising command--centralized and decentralized. They have developed side by side over time, although they have seldom been formally recognized. The personal inclinations of the commanding officer have been the greatest influence in determining which tradition would predominate in a specific unit.

The centralized philosophy of command visualizes war more as a science than an art. At its extreme, the centralized approach sees a higher-level commander attempting to make precise decisions in a virtual "zero-defects" fashion. He then devises detailed plans to carry them out, and supervises the execution in "micromanagement" style. All key decisions are deferred to this commander. Decisions are based on massive amounts of information to try to cut through uncertainty. Slow responsiveness is compensated for by massing overwhelming amounts of men and material against the enemy. In this view, far-reaching initiative from subordinates is not critical to success. Massive relative combat power is. In fact, there is an inherent mistrust of subordinates to make judgments which are precise enough. The centralized plan is sacred. Decentralized decision-making is often seen as likely to undermine this well-oiled plan. To make the wrong decision is worse than having made no decision at all. This approach tends to produce junior leaders who are more

reactive than proactive, and who are very risk-averse. S.L.A. Marshall lamented that the Army in World War II, Korea, and Vietnam leaned too heavily toward this style of command.<sup>37</sup> One of the most vivid pictures of it in action is the following passage from Lieutenant General Dave Palmer's The Summons of the Trumpet:

In the final analysis, though, the helicopter's most pernicious contribution to the fighting in Vietnam may have been its undermining of the influence and initiative of small unit commanders. By providing a fast, efficient airborne command post, the helicopter all too often turned supervisors into oversupervisors. Since rarely was there more than one clash in any given area at any given time, the company commander on the ground attempting to fight his battle could usually observe orbiting in tiers above him his battalion commander, brigade commander, assistant division commander, division commander, and even his field force commander. With all that advice from the sky, it was easy to imagine how much individual initiative and control the company commander himself could exert on the ground--until nightfall sent the choppers to roost.<sup>38</sup>

This tradition continues. The experiences at the NTC show that in many units subordinates lack a sense of responsibility as active-thinking actors. They are used to their commanders doing their tactical thinking for them. Since their role has been one of "executing" detailed plans, they do not feel they have the latitude to make the on-the-spot adjustments demanded by the situation. Nor do they tend to make recommendations or suggest

changes to the established plan. As a result, junior leaders often do things at NTC they know are inappropriate because they "were ordered to do it."<sup>39</sup> In 1984, the Army surveyed 23,000 of its officers in the rank of Second Lieutenant through Colonel on a number of issues. Of those which responded, forty-nine percent said that "the bold, original, creative officer cannot survive in today's Army."<sup>40</sup>

While this centralized tradition of command is not conducive to an Auftragstaktik-like approach, there is another tradition which is. The decentralized style of command views war more as an art than a science. It values the initiative of subordinates, striving especially to harness their creative energies toward simultaneous problem-solving at all levels. The desired effect is speed based on reasonably sound judgmental ability developed by the practice of trial and error. Adequate, not perfect, solutions are sought. In this view, commanders issue more general instructions, relying on subordinates to "get the job done" within a broad charter for action. Plans are viewed as a common basis for change. There's the understanding that no plan is ever implemented exactly as envisioned. The leader must "think on his feet" continually, aggressively analyzing, recommending, anticipating, and adjusting.

This decentralized style has deep roots. Grant's instructions as Commanding General to his subordinate, Major General Sherman, during the Civil War bears the imprint of this style.



I do not propose to lay down for you a plan of campaign [against General Johnston's Army]: but simply to lay down the work it is desirable to have done and leave you free to execute it in your own way.<sup>41</sup>

In the same war, General Robert E. Lee operated similarly vis-a-vis his subordinates. In fact, as that war progressed, both sides relied increasingly on decentralized decision-making to tap the enormous resources of initiative in subordinates down to regimental, and sometimes company, level.<sup>42</sup>

As Assistant Commandant of the Infantry School in the late 1920s, George Marshall did all he could to develop young officer-students into "thinking leaders" who could operate in a decentralized manner. He often issued students foreign or outdated maps, provided only sketchy intelligence, and compelled them to make their own decisions by sporadically cutting off communications with higher headquarters. He routinely made them face the unexpected in order to stimulate imagination and ingenuity. One of his first orders was that "any student's solution of a problem that ran counter to the approved school solution and yet showed independent, creative thinking would be published to the class."<sup>43</sup>

Another supporter of the decentralized style of command was General George S. Patton. He allowed his subordinates great freedom of action, being very tolerant and patient with their errors. He demanded speed and risk-taking. He was once quoted as saying: "Never tell people how to do things. Tell them what

to do and they will surprise you with their ingenuity." His actions proved the sincerity of his words.<sup>44</sup>

This tradition, too, continues. Generally among subordinates today, the idea of a "favorable command climate" implies one in which their commanders allow them enough freedom of action, based on trust, to make their own decisions and perform their duties without over-detailed guidance or supervision. It is also a climate that readily forgives honest errors as part of the learning process. Furthermore, the growing number of journal articles advocating adoption of some sort of Auftragstaktik reflects that the decentralized tradition is alive and well. In one of these articles, a number of former battalion commanders in Europe were polled. "All of them demanded that their company commanders be prepared to take appropriate action on the battlefield in the absence of specific orders." All of them wanted active, thinking leaders with the well-developed capacity to exercise initiative at every opportunity.<sup>45</sup>

Thus, there's one side of Army command tradition that's philosophically opposed to an Auftragstaktik-like approach. However, there's another side which is quite supportive. Beyond that, the Army has taken a number of initiatives in recent years which are also very supportive.

One of these is the emphasis now placed on "mentorship" between superiors and subordinates. The idea is to establish a better communications link to increase mutual trust, facilitate professional discussions, and encourage superiors to take a more

comprehensive, coach-type, teaching approach in developing subordinates better as leaders and individuals. This concept fully supports establishment of the kind of senior-subordinate relationship which is essential to any Auftragstaktik-like approach.<sup>46</sup>

Another supportive initiative is that of emphasizing the "warrior spirit." This is an attempt to highlight what is different between such things as "behavioral science" and "military leadership" or between "business executives" and "senior army leaders." More generally, it is an attempt to underscore the peculiar nature and demands of soldiering in its ultimate role--warfighting. This idea emphasizes war as the contest of wills, as a human struggle in which man, and not machine, is the principal variable in every equation for victory. Hence, the quality of leadership, character, and military virtues become a central focus of attention. As was shown earlier, this focus is exactly that which is necessary for an Auftragstaktik-like approach. It places man at the center stage of warfighting, seen as an imperfect process under uncertain conditions with no guaranteed results. That is why the sound exercise of initiative at all levels is so important.

A third supportive initiative was a program called "Power Down," initiated at Fort Hood, Texas, in 1982. In as comprehensive a fashion as possible, it sought to get leaders to delegate power and responsibility to the maximum extent possible, rather than to hoard it at unnecessarily high levels. One goal

was to develop leaders with vastly increased initiative and common sense. In as many areas as possible--administrative, logistical, and tactical--superiors were to simplify procedures, use general instructions and mission-oriented orders, and nourish subordinate initiative and independent action. The results were adjudged quite gratifying, even if there were many problems with implementation. The program continues, although the term "Power Down" is now rarely used. This program clearly falls in the mainstream of the spirit of Auftragstaktik.<sup>47</sup>

Based in part on these initiatives and on the decentralized command tradition, as well as the spirit of FM 100-5 (1986), there appears to be plenty of fertile ground for an Auftragstaktik-like approach to grow in the US Army. But as long as the centralized command tradition remains strong, such a growth will probably be uneven, confusing and occasionally contentious.

It is for this reason, among others, that the Army should formally and systematically adopt an Auftragstaktik-like doctrine. As seen before, Auftragstaktik has never been a precisely defined concept. Its exact meaning, therefore, is subject to varying interpretations. The misperception that the term means only mission-oriented orders is already widespread. Any process of formal adoption would require a clear, written, doctrinal articulation of exactly what was meant. This would help in advance to clear up much confusion and misunderstanding. Without this articulation, it would be virtually impossible for

service schools and units around the globe to implement the approach in a uniform way. Furthermore, by explaining fully the rationale for this approach and by thus tying it directly to warfighting and war readiness, formal adoption would facilitate acceptance, especially among many steeped in the centralized tradition of command.

This acceptance is particularly important since any Auftragstaktik-like approach must be implemented from the top downward in the chain of command. Implementation can be blocked by any commander who wishes to operate in a more centralized fashion. Having the imprimatur of doctrine increases the perceived legitimacy of Auftragstaktik, making efforts to circumvent general implementation appear clearly improper.

Another reason favoring formal adoption concerns the holistic nature of any Auftragstaktik-like approach. To be effective and successful, the German example suggests that any such approach be implemented in a comprehensive way. It should as a minimum embrace an articulated theory of the nature of war, character and leadership attributes, command and control, senior-subordinate relationships, application of tactics, and leader education and training. The ideas linking all these aspects together are complex, reinforcing and interwoven. They are best explained in writing.

A formally adopted Auftragstaktik-like doctrine could also serve as a central organizing idea for the three initiatives mentioned above--mentoring, the "warrior spirit," and Power Down

(insofar as this program is continued or broadened). All three are compatible with and reinforce an Auftragstaktik-like approach. Mentoring could well support the establishment of the needed senior-subordinate relationships, focusing on tactics and overall professional development as well. The "warrior spirit" concept is an ideal framework for emphasizing the associated character and leadership traits. The "Power-Down" idea fully supports the concept of developing subordinates' initiative and their ability to serve as "thinking" men of action. Even more significant, all these ideas would be tied together within a unifying concept having a single point of ultimate focus--warfighting.

Finally, a concept like Auftragstaktik, if formally articulated as doctrine, could serve well as a valuable prism through which one could better envision the development and integration of technology. The German Army (1933-1945) integrated the tank, the airplane, and other emerging technologies without changing or altering in any way their system of Auftragstaktik. The Germans recognized that man, not machine, was the first factor in achieving victory. To the extent that technology could support the notions associated with Auftragstaktik, it was integrated. If it worked against those notions, it was set aside or adapted. The German Army credited their success against France in 1940 to the manner in which they integrated technology à la Auftragstaktik rather than to the presence of the technology itself. One should not forget that

the French and British had more tanks than the Germans did in this campaign. Besides that, the overall quality of most French and British equipment was better. The German view emphasized not what one had, but how one used it--how well it complemented the ultimate warfighting machine, man, and his proven method of fighting.

This has important ramifications for the Army today. For example, it is developing two pieces of communications equipment which could provide senior commanders with the capability of readily micromanaging subordinate units in battle. The first item is Mobile Subscriber Equipment (MSE). It is a system of highly mobile radiotelephones which greatly increases battlefield communications but which would enable corps and division commanders, for instance, to dial battalion commanders directly. There may be times when that is necessary, but should this be discouraged as a matter of course?<sup>48</sup> Another item being developed is the Position Location and Reporting System/Joint Tactical Information Distribution System Hybrid (PLRS/JTIDS Hybrid). Among other capabilities, this system would locate for a maneuver brigade commander by automatic, periodic electric signal every platoon leader's vehicle in the brigade. Positions would be indicated on a computer screen that even a battalion commander would not have in his command post.<sup>49</sup> One can only imagine the temptation a brigade commander would have to try to maneuver platoons, especially if he were an advocate of the centralized tradition of command. This is not to say the Army

should not develop these items, but rather that it must carefully consider how best to integrate them doctrinally.

This is where a formal Auftragstaktik-like doctrine would help. The doctrine might very logically circumscribe routine use. It might suggest a different equipment distribution scheme, to avoid an unintentional reversion to a centralized command style--which would run counter to the spirit of FM 100-5. This harkens back to the old German Army's special concern about any communications equipment which allowed a commander to by-pass intermediate command levels. Over time, this would cause a withering away of initiative, a sense of responsibility, and imagination at those levels. The German Army used Auftragstaktik notions as a framework to circumscribe the use of such equipment for the larger good of a healthier command climate.<sup>50</sup> Perhaps such notions in doctrinal form could serve as an equally valuable framework for analysis in the US Army.



#### U. Conclusion

The concept of Auftragstaktik--as the term is used retrospectively to look back at the old German Army--was multifaceted, yet holistic. The challenge of adopting an Auftragstaktik-like approach is to do so in a similarly comprehensive, consistent and all-encompassing manner. Such an approach appears sufficiently compatible with the US Army's command traditions. Furthermore, the needs of the modern battlefield compel serious consideration of such an adoption. Because of the potential for misunderstanding and misinterpretation which surround the term, a formal and direct doctrinal adoption is advisable. This would facilitate leader training and education--both in service schools and units--and provide the kind of central focus an Auftragstaktik-like approach really needs to take root.

Auftragstaktik stresses the human dimension of war--a struggle of men against men in an imperfect and uncertain environment. It seeks to develop thinking, tough-minded, self-reliant, confident and courageous leaders who can respond to friction, the fog of war, and unexpected enemy actions with initiative and grim determination--but with no guarantee of success. Such soldiers would develop a prudent audacious, risk-taking attitude, habitually tackling tough problems in the noble effort to solve them. Such soldiers would eschew the idea that

taking no action at all was better than trying and, in the process, making honest mistakes. Such soldiers would recognize in the following words of Teddy Roosevelt a kindred spirit:

It is not the critic that counts . . . .  
The credit belongs to the man who is  
actually in the arena . . . who strives  
valiantly, who errs and often comes up  
short again and again . . . who, at the  
best, knows in the end the triumph of  
high achievement, and who, at worst, if  
he fails, at least fails while daring  
greatly, so that his place shall never  
be with those cold and timid souls  
who know neither victory nor defeat.51

## ENDNOTES

1. John English, On Infantry (New York: Praeger, 1984), p. xx.
2. English, pp. 68, 75-76, and 221; Department of Defense, Generals Balck and von Mellenthin on Tactics: Implications for NATO Military Doctrine, report prepared for the Director of Net Assessment, Office of the Secretary of Defense (McLean, Virginia: BDM Corporation, 19 December 1980), p. 16; Richard E. Simpkin, Race to the Swift: Thoughts on Twentieth-Century Warfare (London and New York: Brassey's Publishers, 1985), p. 53.
3. Daniel J. Hughes, "From Moltke to Guderian: Abuses of German Military History," unpublished paper, xeroxed, scheduled to appear as an article in the December 1986 issue of Military Review, pp. 2-3; Oberstleutnant Walter von Lassow, Army of the Federal Republic of Germany, "Mission-Type Tactics Versus Order-Type Tactics," Military Review 57 (June 1977): 87-91; Army of the Federal Republic of Germany, "The German Army's Mission-Oriented Command and Control," Armor 90 (January-February 1981): 12-16.
4. Hauptmann Fritz Hoenig, Inquiries into the Tactics of the Future, 4th ed., translated by Carl Reichmann (Kansas City, Mo.: Hudson-Kimberly Publishing Company, 1898), pp. 25-27, 43, 45, 220, 232-34, 267, and 311; Gunther E. Rothenberg, "Moltke, Schlieffen, and the Doctrine of Strategic Envelopment," in Makers of Modern Strategy: From Machiavelli to the Nuclear Age, ed. Peter Paret (Princeton, N.J.: Princeton University Press, 1986), p. 313; German Army, Exerzir-Reglement fuer die Infanterie (Berlin: E.S. Mittler & Sohn, 1889), pp. 108-09; German Army, Exerzir-Reglement fuer die Infanterie (Berlin: E.S. Mittler & Sohn, 1906), pp. 78, 90-91; Hilliard A. Atteridge, The German Army in War (New York: McBride, Nast, and Co., 1915), pp. 37-38; General der Kavallerie Friedrich von Bernhardi, How Germany Makes War (New York: George H. Doran, 1914), pp. 214, 218, and 220-21.
5. Herbert Rosinski, The German Army, ed. Gordon Craig (London: Pall Mall Press, 1966), p. 310; General der Infanterie Guenther Blumentritt, Technique of Command, translated by the US Army, a report prepared for the Historical Division, US Army, Europe, 1947, pp. 7-8; Timothy T. Lupfer, The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War, Leavenworth Papers, no. 4 (Ft. Leavenworth, Ks.: Combat Studies Institute, US Army Command & General Staff College, July 1981), pp. 15-21, 41-46.

6. German Army, Truppenfuehrung, Teil I, Heeresdienstvorschriften 300/1 (Berlin: E.S. Mittler & Sohn, 1936), pp. 4-5; This was the version of the German Field Service Regulations published in 1933 and used throughout World War II. Previous versions of Field Service Regulations also emphasized the importance of decisive action.
  
7. General der Infanterie Guenther Blumentritt, The Old German Army of 1914 and the New German Army of 1939: A Comparative Study, trans. M. Otto, report prepared for the Historical Division, European Command, 1947, p. 21; General der Flieger Friedrich E. E. A. von Cochenhausen, Die Truppenfuehrung, Teil I: Mittlere und untere Fuehrung, 6th ed. (Berlin: E.S. Mittler & Sohn, 1931), p.105; Generalmajor Burkhardt Mueller-Hillebrand, Deutsche und sowjetrussische militaerische Fuehrung im Zweiten Weltkrieg, report prepared for the Historical Division, US Army, Europe, no date [c1954], p. 52.
  
8. Generalmajor Baron von Freytag-Loringhoven, The Power of Personality in War, trans. US Army War College (Harrisburg, Penn.: The Military Service Publishing Company, 1955), p. 91; Field-Marshal Erich von Manstein, Lost Victories, ed. and trans. A.G. Powell (Chicago: H. Regency Co., 1958; reprint ed., Novato, California: Presido Press, 1982), pp. 99-100.
  
9. Mueller-Hillebrand, p.28; German Army, Truppenfuehrung, Teil I, Heeresdienstvorschriften 300/1 (Berlin: E.S. Mittler & Sohn, 1936), pp. 1-3.
  
10. German Army, Truppenfuehrung, Teil I, Heeresdienstvorschriften 300/1 (Berlin: E.S. Mittler & Sohn, 1936), pp. 1,10 [hereafter cited as H.Dv. 300/1 (1936)]; German Army, Fuehrung und Gefecht der verbundenen Waffen, Teil I (Berlin: Verlag Offene Worte, 1921), p. 8.
  
11. Mueller-Hillebrand, pp. 52-53; German Army, Fuehrung und Gefecht, Teil I, pp. 6-8; Generaloberst Franz Halder et al., Analysis of US Field Service Regulations, edited by D.A. Lane, trans. G Weber and W. Leutzkendorf, report prepared for the Historical Division, European Command, 1952, p.15; General der Artillerie Curt Gallenkamp, Examples Taken from War as an Empirical Basis for the Arrangement of Map Exercises and Field Exercises, trans. US Army, report prepared for the Historical Division, European Command, 1951, pp. 33-34; Hermann Balck, "Translation of Taped Conversation with General Hermann Balck, 13 April 1979" (Columbus, Ohio: Battelle, July 1979), pp. 41-42.
  
12. H.Dv. 300/1 (1936), p. 1; Rosinski, p. 302; Halder et al., p. 9,52; German Army, Fuehrung und Gefecht der verbundenen Waffen, Teil I, pp. 6-9,21; Dieter Ose, "Der 'Auftrag': Eine deutsche militaerische Tradition," Europaeische Wehrkunde 6(June 1982): p. 26; F.W. von Mellenthin, "Armored Warfare in World War

II," a conference report focusing on the experiences of Generalmajor F.W. von Mellenthin (Columbus, Ohio: Battelle, 10 May 1979), p.48; Generaloberst Dr. Lothar Rendulic, The Command Decision, trans. M. Bauer, report prepared for the Historical Division, US Army, Europe, 1947, pp. 17-18.

13. H.Dv. 300/1 (1936), pp. 2-3; German Army, Fuehrung und Gefecht der verbundenen Waffen. Teil I, pp. 7-8; Von Mellenthin, "Armored Warfare in World War II," pp. 7-8.

14. Bernhardt, How Germany Makes War, pp. 213-14; H.Dv. 300/1 (1936), pp. 2-5.

15. General der Infanterie Guenther Blumentritt, The Dangers of Operational and Tactical "Systems", edited by A. Hall, trans. H.J. Baerwaldt, report prepared for the Historical Division, European Command, 1948, p.6; von Manstein, Lost Victories, pp. 382-83; von Mellenthin, "Armored Warfare in World War II," p. 11; Hermann Balck, "Translation of Taped Conversation with General Hermann Balck, 12 January 1979 " (Columbus, Ohio: Battelle, January 1979), pp. 57-58.

16. German Army, Fuehrung und Gefecht der verbundenen Waffen. Teil I, p.21; Mueller-Killebrand, Deutsche und sowjetrussische militaerische Fuehrung im Zweiten Weltkrieg, p. 24; von Cochenhausen, Die Truppenfuehrung. Teil I: Mittlere und untere Fuehrung, pp. 25-26.

17. H.Dv. 300/1 (1936), pp. 10-11,21-23; German Army, Fuehrung und Gefecht der verbundenen Waffen. Teil I, pp. 21-22; Generalfeldmarschall Albert Kesselring, Manual for Command and Combat Emploument of Smaller Units (Based on German Experiences in World War II), ed. G.C. Vanderstadt, trans. G. Weber and W. Leutzkendorf, report prepared for the Historical Division, European Command, 1952, pp. 13-14,26; Rendulic, The Command Decision, pp. 1-2; Rendulic, Combat Orders, trans. US Army, report prepared for the Historical Division, US Army, Europe, 1947, pp. 1-3.

18. H.Dv. 300/1 (1936), pp. 2-3,152-53; German Army, Fuehrung und Gefecht der verbundenen Waffen. Teil I, pp. 8-9; Halder et al., Analasis of US Field Service Regulations, p. 17; General der Flieger Friedrich E.E.A. von Cochenhausen, Die kriegswissenschaftliche Fortbildung des Truppenoffiziers (Berlin: E.S. Mittler & Sohn, 1926), pp. 50, 91-92.

19. German Army, Fuehrung und Gefecht der verbundenen Waffen. Teil I, pp. 8-9; H.Dv. 300/1 (1936), pp. 2-3; Cochenhausen, Die kriegswissenschaftliche Fortbildung des Truppenoffiziers, pp. 10-30.

20. Rendulic, Combat Orders, pp.5,11; H.Dv. 300/1 (1936), pp. 10-11.

21. H.Dv. 300/1 (1936), pp. 15-16; German Army, Fuehrung und Gefecht der verbundenen Waffen. Teil I, p. 30.

22. Rendulic, The Command Decision, p.9; Cochenhausen, Die kriegswissenschaftliche Fortbildung des Truppenoffiziers, pp. 1-2, 96-97; US Army, German Training Methods: A Study of German Military Training, study prepared at GMDS by a combined British, Canadian, and US Staff, May 1946, pp. 3-4; Major de Pardieu, French Army, A Critical Study of German Tactics and the New German Regulations, trans. Charles Martin (Ft. Leavenworth, Ks.: US Cavalry Association, 1912), pp. 65-66.

23. Richard E. Simpkin, Race to the Swift: Thoughts on Twenty-First Century Warfare (London and New York: Brassey's Publishers Limited, 1985), pp.230-31,239; Heinz Gaedcke, "Translation of Taped Conversation with Lieutenant General Heinz Gaedcke, 12 April 1979" (Columbus, Ohio: Battelle, November 1979), pp. 25-26; Martin van Creveld, Fighting Power: German and US Army Performance, 1939-1945 (Westport, Conn.: Greenwood Press, 1982), p. 36; Gallenkamp, Examples Taken from War as an Empirical Basis for the Arrangement of Map Exercises and Field Exercises, pp. 32-33; Department of Defense, Generals Balck and von Mellenthin on Tactics: Implications for NATO Military Doctrine, pp. 18-20,22.

24. Mueller-Hillebrand, Deutsche und sowjetrussische militaerische Fuehrung im Zweiten Weltkrieg, pp.24-25,31; Generaloberst Heinz Guderian, Panzer Leader, trans. Constantine Fitzgibbon (London: Michael Joseph, 1952; reprint ed., New York: Ballantine Books, 1972), pp. 384-85; Halder et al., Analysis of US Field Service Regulations, pp. 7,13.

25. Cochenhausen, Die kriegswissenschaftliche Fortbildung des Truppenoffiziers, pp.153-56; Department of Defense, Generals Balck and von Mellenthin on Tactics: Implications for NATO Military Doctrine, pp. 16-17.

26. van Creveld, Fighting Power, p.35; Richard E. Simpkin, "Command from the Bottom," Infantry 75 (March-April 1985): 34; Simpkin, Human Factors in Mechanized Warfare (Oxford and New York: Brassey's Publishers Limited, 1983), pp. 149,155; Field Manual (FM) 100-5, Operations (Washington D.C.: US Government Printing Office, May 1986), pp. 15,24,97.

27. FM 100-5, Operations (May 1986), p.16.

28. van Creveld, Fighting Power, p. 35; Department of Defense, Generals Balck and von Mellenthin on Tactics: Implications for NATO Military Doctrine, p. 54.

29. English, On Infantry, p. xix; Simpkin, Human Factors in Mechanized Warfare, pp. 155-56; Simpkin, Race to the Swift, p. 230; T. Owen Jacobs, "The AirLand Battle and Leadership Requirements," in Leadership on the Future Battlefield, ed. James G. Hunt and John D. Blair (Washington, D.C.: Pergamon-Brassey's International Defense Publishers, 1985), p. 27; Lieutenant Colonel Robert L. Schmidt, "A Doctrine for Command," Military Review 65 (November 1985): 47.

30. US Army, "National Training Center: Lessons Learned," Commander's memorandum signed by Brigadier General E.S. Leland (FT. Irwin, California: National Training Center, 20 November 1985), p. 1.

31. FM 100-5, Operations (1986), pp. 17-18, 21; English, On Infantry, pp. xix, 68, 75-76, 221; Lieutenant Colonel John W. Mountcastle, "On the Move: Command and Control of Armor Units in Combat," Military Review 65 (November 1985): 38; Simpkin, Race to the Swift, pp. 53, 206-07; Major John Holly, "The Forgotten Dimension of AirLand Battle," Military Review 65 (August 1985): 22; Stephen E. Runals, "Command and Control: Does Current US Army Tactical Command and Control Doctrine Meet the Requirements for Today's High Intensity Battlefield?", Monograph, School for Advanced Military Studies (Ft. Leavenworth, Ks.: US Army Command and General Staff College, 2 December 1985), p. 36; John M. Vermillion, "Tactical Implications of the Adoption of Auftragstaktik for Command and Control on the AirLand Battlefield," Monograph, School for Advanced Military Studies (Ft. Leavenworth, Ks.: US Army Command and General Staff College, 2 December 1985), p. 36.

32. FM 100-5, Operations (1986), p. 22.

33. Simpkin, Race to the Swift, p. 206.

34. FM 100-5, Operations (1986), pp. 15-16, 26; Holly, "The Forgotten Dimension of AirLand Battle," pp. 19-20; Mountcastle, "On the Move: Command and Control of Armor Units in Combat," pp. 37-38; Jacobs, "The AirLand Battle and Leadership Requirements," p. 31; Simpkin, Race to the Swift, p. 239; Lieutenant Colonel Cecil B. Calloway, "Leadership Imperatives," Military Review 66 (November 1986): 56-59; General William R. Richardson, "Kermit Roosevelt Lecture: Officer Training and Education," Military Review 64 (October 1984): 29-32; Major General John H. Moellering, "Leadership and the AirLand Battle," Defense Systems Review and Military Communications 2 (October 1984): 10, 13.

35. Holly, p. 22; English, p. xix; F.W. von Mellenthin, "Armored Warfare in World War II," pp. 36-37; Captain Lynn W. Kaufman, "Initiative in the US Soldier," Military Review 66 (November 1986): 48; S.L.A. Marshall, Men Against Fire: The

Problem of Battle Command in Future War (Washington, D.C.: Infantry Journal, 1947; reprint ed., Gloucester, Mass.: Peter Smith, 1978), p. 68.

36. Vermillion, p. 6.

37. van Creveld, Fighting Power, pp. 40, 46, 131, 167; S.L.A. Marshall, pp. 114-15; Simpkin, Race to the Swift, p. 233; Jacobs, p. 27; Kaufman, pp. 45-47; Moellering, p. 13; Halder et al., p. 9; "Can We Fight a Modern War?" Newsweek, 9 July 1984, p. 43.

38. Lieutenant General Dave Richard Palmer, The Summons of the Trumpet: US-Vietnam in Perspective (San Rafael, California: Presidio Press, 1978), p. 142.

39. Major Vernon W. Humphrey, "NTC: Command and Control," Infantry 74 (September-October 1984): 36;

40. Benjamin Schemmer, "Internal Army Surveys Suggest Serious Concerns About Army's Senior Leaders," Armed Forces Journal International, May 1985, pp. 18-19.

41. Marshall, p. 189.

42. F.W. von Mellenthin, "Armored Warfare in World War II," p. 5. Von Mellenthin likens Lee to Moltke the Elder in the common approach to put their forces along the right direction for the decisive battle and then to let subordinates actually conduct the fight.

43. Richardson, "Kermit Roosevelt Lecture: Officer Training and Education," p. 26; Forrest C. Pogue, George C. Marshall: Education of a General, 1880-1939 (New York: Viking Press, 1963), pp. 248-57.

44. Field Circular (FC) 71-6, Battalion and Brigade Command and Control (Ft. Benning, Ga.: US Army Infantry School, 1 March 1985), p. D-1; Edgar F. Puryear, Jr., 19 Stars: A Study in Military Character and Leadership (Novato, California: Presidio Press, 1971), pp. 269-70; Porter B. Williamson, Patton's Principles (Tucson, Arizona: Management and Systems Consultants, 1979), pp. 36-38, 45-47, 104-08.

45. Mountcastle, pp. 37-38; Major David M. Tanksley, "C2: Finding the Middle Ground," Military Review 65 (November 1985): 54-55.

46. Field Circular (FC) 22-999, Leadership and Command at Senior Levels (Ft. Leavenworth, Ks.: US Army Command and General Staff College, 15 November 1985), pp. 4-24 to 4-25.



47. US Army, "Report of the Ft. Hood Leadership Study," paper prepared by the Center for Army Leadership summarizing the details of a larger report by the Essex Corporation completed under contract with the US Army (Ft. Leavenworth, Ks.: US Army Command and General Staff College, August 1986), pp. 1-5; US Army, Training, Maintenance, Leadership: III Corps Commander's Handbook (Ft. Hood, Texas: III Corps, April 1984), pp. 11-13.

48. Don Schaum et al., "MSE: Mobile Subscriber Equipment," Army Communicator, Fall 1984, pp. 6-22.

49. "Critical C3I Programs Emphasize Survivability, Jam Resistance," Defense Electronics 18 (July 1986): 99; C.B. Ablett, "C3I Evolution Leaves a Lot to Chance," Defense Electronics 16 (January 1984): 53-54; James B. Schutz, "PLRS, PJH to Improve Tactical Battlefield Operations," Defense Electronics 16 (January 1984): pp. 64, 68, 71.

50. Schmidt, pp. 45-46; General Frido von Senger und Etterlin, Neither Fear Nor Hope, trans. George Malcolm (New York: E.P. Dutton, 1964), p. 220; Walter von Lassow, p. 90.

51. Vince Lombardi, Vince Lombardi on Football, 2 vols., edited by George L. Flynn (New York: Graphic Society Ltd. and Wallynn Inc.), 1:16. It is interesting to note that this was Vince Lombardi's favorite quote. Lombardi, former coach of the Green Bay Packers, was one of the most successful professional football coaches of all time. He stressed football's human dimension (as a struggle of wills) over its "scientific" dimension.

## BIBLIOGRAPHY

### US Government Documents, Manuals, and Reports

Blumentritt, Guenther, General der Infanterie.

Ausbildungsmethoden und Manoever im deutschen Heer.

Report prepared for the Historical Division; US Army, Europe; 1954. Document Number MS # P-200.

\_\_\_\_\_. The Dangers of Operational and Tactical "Systems".

Edited by A. Hall. Trans. H.J. Baerwaldt. Report prepared for the Historical Division, European Command, 1948. Document Number MS # C-009.

\_\_\_\_\_. Miscellaneous Military Problems. Edited and translated

by the US Army. Report prepared for the Historical Division, European Command, 1952. Document Number MS # B-655.

\_\_\_\_\_. The Old German Army of 1914 and the New German Army of

1939: A Comparative Study. Translated by M. Otto. Report prepared for the Historical Division, European Command, 1947. Document Number MS # B-296.

\_\_\_\_\_. Special Work. Out of Schedule: The Modern Professional

Officer's Training in Peacetime. Trans. M. Otto. Report prepared for the Historical Division; US Army, Europe; 1947. Document Number MS # B-651.

\_\_\_\_\_. Technique of Command. Translated by the US Army.

Report prepared for the Historical Division; US Army; Europe, 1947. Document Number MS # B-303.

Department of Defense. Generals Balck and von Mellenthin on

Tactics: Implications for NATO Military Doctrine. Report prepared for the Director of Net Assessment, Office of the Secretary of Defense. McLean, Virginia: BDM Corporation, 19 December 1980.

Field Circular (FC) 22-999, Leadership and Command At Senior

Levels. Ft. Leavenworth, Kansas: US Army Command and General Staff College, 15 November 1985.

Field Circular (FC) 71-6, Battalion and Brigade Command and

Control. Ft. Benning, Georgia: US Army Infantry School, 1 March 1985.

Field Manual (FM) 22-100, Military Leadership. Washington, D.C.:

US Government Printing Office, October 1983.

Field Manual (FM) 100-5, Field Service Regulations: Operations.

Washington, D.C.: US Government Printing Office, 15 June

1944.

Field Manual (FM) 100-5, Operations. Washington, D.C.: US Government Printing Office, May 1986.

Gallenkamp, Curt, General der Artillerie. Examples Taken from War as an Empirical Basis for the Arrangement of Map Exercises and Field Exercises. Trans. US Army. Report prepared for the Historical Division, European Command, 1951. Document Number MS # C-079.

Halder, Franz, Generaloberst; Stapf, Otto, General der Infanterie; Roehricht, Edgar, General der Infanterie; Bechtolsheim, Anton Freiherr von, General der Artillerie; Kretschmer, Alfred, Generalleutnant; Zerbel, Alfred, Oberst i.G.; and Schultze, Hellmuth, Oberst i.G. Analysis of US Field Service Regulations. Edited by D.A. Lane. Trans. G.C. Vanderstadt. Report prepared for the Historical Division; US Army, Europe; 1953. Document Number MS # P-133.

Kesselring, Albert, Generalfeldmarschall; Doll, Ernst, Major; Gallenkamp, Curt, General der Artillerie; Maelzer, Kurt, Generalleutnant; Simon, Max, Generalleutnant Waffen-SS; and Wolff, Kurt, Generalleutnant. Manual for Command and Combat Employment of Smaller Units (Based on German Experiences in World War II). Trans. G. Weber and W. Leutzkendorf. Edited by G.C. Vanderstadt. Report prepared for the Historical Division, European Command, 1952. Document Number MS # P-060b.

Mueller-Hillebrand, Burkhart, Generalmajor. Deutsche und sowjetrussische militaerische Fuehrung im Zweiten Weltkrieg. Report prepared for the Historical Division; US Army, Europe; no date [c1954]. Document Number MS # P-145.

Raus, Erhard, Generaloberst. Small Unit Tactics. Part 4: Unusual Situations. Trans. US Army. Report prepared for the Historical Division; US Army, Europe; 1954. Document Number MS # P-060g.

Reinhardt, Hellmuth, Generalmajor. Size and Composition of Divisional and Higher Staffs in the German Army. Comments by Generaloberst Franz Halder. Trans. Hellmut Heitman. Report prepared for the Historical Division; US Army, Europe; 1954. Document Number MS # P-139.

Rendulic, Lothar, Generaloberst Dr. Combat Orders. Trans. US Army. Report prepared for the Historical Division; US Army, Europe; 1947. Document Number MS # D-268.

\_\_\_\_\_. The Command Decision. Trans. M. Bauer. Report prepared

For the Historical Division; US Army, Europe; 1947.  
Document Number MS # D-080a.

US Army. German Training Methods: A Study of German Military Training. Study prepared at GMDS by a combined British, Canadian, and US Staff. May 1946.

US Army. "National Training Center: Lessons Learned." Commander's Memorandum signed by Brigadier General E.S. Leland, Jr. Ft. Irwin, California: National Training Center, 20 November 1985.

US Army. "Report of the Ft. Hood Leadership Study." Paper prepared by the Center for Army Leadership summarizing the details of a larger report by the Essex Corporation under contract to the US Army. Ft. Leavenworth, Kansas: US Army Command & Staff College, August 1986.

US Army. Training, Maintenance, Leadership: III Corps Commander's Handbook. Ft. Hood, Texas: III Corps, April 1984.

#### Books and Monographs

Atteridge, A. Hilliard. The German Army in War. New York: McBride, Nast, and Co., 1915.

Balck, Hermann, General der Panzertruppe. Ordnung im Chaos: Erinnerungen, 1893-1943. 2d ed. Osnabrueck: Biblio Verlag, 1981.

Bernhardi, Friedrich von, General der Kavallerie. How Germany Makes War. New York: George H. Doran, 1914.

Bjornstad, A.W., Captain, US Army. The German Army. Fort Leavenworth, Kansas: Press of the Army Service Schools, 1916.

Cochhausen, Friedrich Ernst Eduard Arnold von, General der Flieger. Taktisches Handbuch fuer den Truppenfuehrer und seine Gehilfen. 13th ed. Berlin: E.S. Mittler und Sohn, 1940.

\_\_\_\_\_. Die kriegswissenschaftliche Fortbildung des Truppenoffiziers. Berlin: E.S. Mittler und Sohn, 1926.

\_\_\_\_\_. Die Truppenfuehrung. Teil I: Mittlere und untere Fuehrung. 6th ed. Berlin: E.S. Mittler und Sohn, 1931.

Crevel, Martin van. Command in War. Cambridge, Mass.: Harvard University Press, 1985.

- \_\_\_\_\_. Fighting Power: German and US Army Performance, 1939-1945. Westport, Connecticut: Greenwood Press, 1982.
- Davies, W.J.K. German Army Handbook, 1939-1945. New York: Arco Publishing, 1974.
- Deighton, Len. Blitzkrieg: From the Rise of Hitler to the Fall of Dunkirk. London: Jonathan Cape, 1979; reprint ed., New York: Ballantine Books, 1982.
- English, John A. On Infantry. New York: Praeger, 1984.
- Freytag-Loringhoven, Baron von, Generalmajor. The Power of Personality in War. Trans. Historical Division, US Army War College. Harrisburg, Pennsylvania: The Military Service Publishing Company, 1955.
- German Army. Exerzier-Reglement fuer die Infanterie. Berlin: E.S. Mittler und Sohn, 1889.
- \_\_\_\_\_. Exerzier-Reglement fuer die Infanterie. Berlin: E.S. Mittler und Sohn, 1906.
- \_\_\_\_\_. Truppenfuehrung, Teil I. Heeresdienstvorschriften 300/1. Berlin: E.S. Mittler und Sohn, 1936.
- \_\_\_\_\_. Fuehrung und Gefecht der verbundenen Waffen, Teil I. Berlin: Verlag Offene Worte, 1921.
- \_\_\_\_\_. Fuehrung und Gefecht der verbundenen Waffen, Teil II. Berlin: Verlag Offene Worte, 1923.
- Guderian, Heinz, Generaloberst. Panzer Leader. Trans. Constantine Fitzgibbon. London: Michael Joseph, 1952; reprint ed., New York: Ballantine Books, 1972.
- Koenig, Fritz, Hauptmann. Inquiries into the Tactics of the Future. 4th ed. Trans. Carl Reichmann. Kansas City, Mo.: Hudson-Kimberly Publishing Company, 1898.
- Horne, Alistair. To Lose a Battle: France 1940. New York: Little, Brown, and Co., 1969; New York: Penguin Books, 1979.
- Lind, William S. Maneuver Warfare Handbook. Boulder, Colorado, and London: Westview Press, 1985.
- Lombardi, Vince. Vince Lombardi on Football. 2 vols. Edited by George L. Flynn. New York: Graphic Society Ltd. and Wallynn Inc., 1973.
- Lupfer, Timothy I. The Dynamics of Doctrine: The Changes in

German Tactical Doctrine During the First World War.  
Leavenworth Papers, No. 4. Ft. Leavenworth, Ks.: Combat  
Studies Institute, US Army Command and General Staff  
College, July 1981.

Marshall, S.L.A. Men Against Fire: The Problem of Battle Command  
in Future War. Washington, D.C.: Infantry Journal, 1947;  
reprint ed., Gloucester, Mass.: Peter Smith, 1978.

Manstein, Erich von, Field-Marshal. Lost Victories. Edited and  
translated by A.G. Powell. Chicago: H. Regency Co., 1958;  
reprint ed., Novato, California: Presidio Press, 1982.

Mellenthin, F.W. von. Panzer Battles: A Study of the Employment  
of Armor in the Second World War. Edited by H. Betzler.  
Trans. L.C.F. Turner. Norman, Oklahoma: University of  
Oklahoma Press, 1956.

Palmer, Dave Richard, Lieutenant General, US Army. The Summons  
of the Trumpet: US-Vietnam in Perspective. San Rafael,  
California: Presidio Press, 1978.

Pardieu, Major de, French Army. A Critical Study of German  
Tactics and the New German Regulations. Trans. Captain  
Charles F. Martin, US Army. Ft. Leavenworth, Kansas:  
US Cavalry Association, 1912.

Pogue, Forrest C. George C. Marshall: Education of a General,  
1880-1939. New York: Viking Press, 1963.

Puryear, Edgar F., Jr. 19 Stars: A Study in Military Character  
and Leadership. Novato, California: Presidio Press, 1971.

Rosinski, Herbert. The German Army. Edited by Gordon Craig.  
London: Pall Mall Press, 1966.

Runals, Stephen E. "Command and Control: Does Current US Army  
Tactical Command and Control Doctrine Meet the Requirements  
for Today's High Intensity Battlefield?" Monograph, School  
of Advanced Military Studies. Ft. Leavenworth, Ks.: US Army  
Command and General Staff College, 2 December 1985.

Senger und Etterlin, Frido von, General. Neither Fear Nor Hope.  
Trans. George Malcolm. New York: E.P. Dutton, 1964.

Simpkin, Richard E. Human Factors in Mechanized Warfare. Oxford  
and New York: Brassey's Publishers Limited, 1983.

\_\_\_\_\_. Race to the Swift: Thoughts on Twenty-First Century  
Warfare. London and New York: Brassey's Publishers, 1985.

Spires, David N. Image and Reality: The Making of the German

Officer. 1921-33. Westport, Conn.: Greenwood Press, 1984.

Vermillion, John M. "Tactical Implications of the Adoption of Auftragstaktik for Command and Control on the AirLand Battlefield." Monograph, School of Advanced Military Studies. Ft. Leavenworth, Ks.: US Army Command and General Staff College, 2 December 1985.

Williamson, Porter B. Patton's Principles. Tucson, Arizona: Management and Systems Consultants, 1979.

#### Articles, Papers, and Conversations

Ablett, C.B. "C3I Evolution Leaves a Lot to Chance." Defense Electronics 16 (January 1984): 48-54, 59.

Balck, Hermann. "Translation of Taped Conversation with General Hermann Balck, 13 April 1979." Columbus, Ohio: Battelle, July 1979.

\_\_\_\_\_. "Translation of Taped Conversation with General Hermann Balck, 12 January 1979." Columbus, Ohio: Battelle, January 1979.

Bates, Jared L., Colonel, US Army, and Quinn, Jimmie B., Lieutenant Colonel, US Army. "T2S-U." Military Review 66 (March 1986): 21-31.

Calloway, Cecil B., Lieutenant Colonel, US Army. "Leadership Imperatives." Military Review 66 (November 1986): 55-63.

"Can We Fight a Modern War?" Newsweek, 9 July 1984, pp. 34-48.

"Critical C3I Programs Emphasize Survivability, Jam Resistance." Defense Electronics 18 (July 1986): 91-99.

Federal Republic of Germany, the Army. "The German Army's Mission-Oriented Command and Control." Armor 90 (January-February 1981): 12-16.

Flanagan, Edward M., Jr., Lieutenant General, US Army, Retired. "The 'Military Mind'." Army 34 (February 1984): 29-36.

Gaedcke, Heinz. "Translation of Taped Conversation with Lieutenant General Heinz Gaedcke, 12 April 1979." Columbus, Ohio: Battelle, November 1979.

Hahn, Daniel A., Major, US Army. "Leadership: The Heart of C2." Military Review 65 (November 1985): 48-51.

Hartness, Harlan N., Captain, US Army. "Germany's Tactical Doctrine." Infantry Journal 46 (May-June 1939): 249-251.

Holly, John W., Major, US Army. "The Forgotten Dimension of AirLand Battle." Military Review 65 (August 1985): 18-25.

Hughes, Daniel J. "From Moltke to Guderian: Abuses of German Military History." Unpublished paper. Xeroxed. With minor revision this paper is scheduled to appear as an article in the December 1986 issue of Military Review.

Humphrey, Vernon W., Major, US Army. "NIC: Command and Control." Infantry 74 (September-October 1984): 36-38.

\_\_\_\_\_. "Winning at the NIC: Defeat at Brigade Hill." Infantry 74 (March-April 1984): 36-38.

Jacobs, T. Owen. "The AirLand Battle and Leadership Requirements." In Leadership on the Future Battlefield, pp. 22-31. Edited by James G. Hunt and John D. Blair. Washington, D.C.: Pergamon-Brassey's International Defense Publishers, c1985.

Kaufman, Lynn W., Captain, US Army. "Initiative in the US Soldier." Military Review 66 (November 1986): 45-54.

Lossow, Walter von, Oberstleutnant, Army of the Federal Republic of Germany. "Mission-Type Tactics Versus Order-Type Tactics." Military Review 57 (June 1977): 87-91.

Majewski, Norbert, Oberst, Federal Republic of Germany, and Peyton, John H., Lieutenant Colonel, US Army. "German Army General Staff Officer Training." Military Review 64 (December 1984): 23-34.

McMahon, Timothy L., Major, US Army. "The Key to Success: Developing a C2 Philosophy." Military Review 65 (November 1985): 42-44.

Mellenthin, F.W. von. "Armored Warfare in World War II." A conference report focusing on the experiences of Generalmajor F.W. von Mellenthin. Columbus, Ohio: Battelle, 10 May 1979.

Moellering, John H., Major General, US Army. "Leadership and the AirLand Battle." Defense Systems Review and Military Communications 2 (October 1984): 7-13.

Mountcastle, John W., Lieutenant Colonel, US Army. "On the Move: Command and Control of Armor Units in Combat." Military Review 65 (November 1985): 14-39.

Ose, Dieter. "Der 'Auftrag': Eine deutsche militaerische Tradition." Europaeische Wehrkunde 6 (June 1982): 264-65.



Richardson, William R., General, US Army. "Kermit Roosevelt Lecture: Officer Training and Education." Military Review 64 (October 1984): 22-34.

\_\_\_\_\_. "Training for Maneuver Warfare." Armor, July-August 1981, pp. 31-34.

Rothenberg, Gunther E. "Moltke, Schlieffen, and the Doctrine of Strategic Envelopment." In Makers of Modern Strategy: From Machiavelli to the Nuclear Age, pp. 296-325. Edited by Peter Paret. Princeton, N.J.: Princeton University Press, 1986.

Schaum, Don; Kelley, William E.; Martin, Louis S.; Pugh, Don; and Wright, Bruce. "MSE: Mobile Subscriber Equipment." Army Communicator, Fall 1984, pp. 6-22.

Schemmer, Benjamin. "Internal Army Surveys Suggest Serious Concerns About Army's Senior Leaders." Armed Forces Journal International, May 1985, pp. 18-19.

Schmidt, Robert L., Lieutenant Colonel, US Army. "A Doctrine for Command." Military Review 65 (November 1985): 45-47.

Schutz, James B. "PLRS, PJH to Improve Tactical Battlefield Operations." Defense Electronics 16 (January 1984): 60-71.

Simpkin, Richard E. "Command from the Bottom." Infantry, 75 (March-April 1985): 34-37.

Tanksley, David M. "C2: Finding the Middle Ground." Military Review 65 (November 1985): 52-55.

Teston, Harvey A., Jr., Major, US Army. "Command and Confusion at the NTC." Military Review 65 (November 1985): 56-64.

Wass de Czege, Kuba, Colonel, US Army. "Understanding and Developing Combat Power." Paper, School of Advanced Military Studies. Ft. Leavenworth, Ks.: US Army Command and General Staff College, 10 February 1984.

END

5-87

DTIC